
	<p align="center">SKILLS CENTER</p> <p align="center">STANDARD OPERATING PROCEDURE</p>	<p align="center">A BIOFIZZ</p>  <p align="center">PRODUCTON</p>
<p align="center">Seminar Report (MCDB 3456 Only)</p> <p align="center">Module Hours: 2</p>	<p>Effective Date: 8/26/2024</p> <p>PRQs:</p>	<p>Revision 1.0</p> <p>Author: Z. Hazlett</p> <p>Checked by Editor: M. Stowell</p>

Background

Completion of this module satisfies the upper division requirements for MCDB SkillsCenter, section 3456.

Research seminars are one of the primary modes by which scholars present their work to scientific and occasionally public audiences. For the speakers, these events offer valuable opportunities for them to practice communicating their research to others and gain feedback and new perspective from listeners. For the audience members, research seminars are



a great place to learn about new avenues of scientific research and to broaden one's awareness of important problems being investigated. For all, seminars offer great opportunities to share ideas, gain new perspective, and can even allow for valuable networking opportunities for trainees and potential collaborators.

Seminar talks traditionally follow a structure similar to those seen in written research articles. A speaker will begin with an introduction to the topic, describing the broad impact of the work they are describing. A good speaker will then provide the audience with any relevant background information they might need to understand the value of the research being described and how they went about the investigation. At the end of an introduction, speakers will often present their research questions and/or the hypotheses being tested. The bulk of a research talk will involve the descriptions of how a researcher investigated one or multiple novel scientific question(s), and what they discovered from the investigation. Clean and clear presentations of results and conclusions are often the key elements that drive the narrative of a scientific talk.



Seminar presentation

(<https://curesymposium.org/fall-2017-cure-symposium/>)

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Of note, good research seminar speakers are aware that the scientific background of their audience is variable. To present effectively to an audience that may or may not be familiar with the subject matter of their work, a speaker must carefully communicate complex phenomenon in a way that is accessible. That said, the ability to present an accessible scientific talk is a skill in itself and grows with experience. Along with what the seminar speaker is discussing, we encourage you to also reflect on the accessibility of their talk and describe ways in which you think their talk could be improved so more listeners can understand.

In this module, you will be tasked with attending a formal scientific talk, listening carefully to the research being described, and to write up a short summary and critique of their work. Do not be concerned if you are unable to understand all of what is being presented. Do your best to understand as much as you can, take notes, and consider which kinds of techniques you can adopt to improve your own scientific communication.

1. Purpose

To expose students to formal scientific research presentations, prompting them to think critically about the efficacy of the presentation and how they can develop their own scientific communication.



2. Scope

This procedure applies to qualified SkillsCenter users in the upper division section, 3456.

3. Responsibility

It is the responsibility of the user to:

- Identify and attend a formal scientific research presentation
- Take notes on the information being described
- Complete the connected MMT tasks reporting on the work presented and what they learned from it.

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4. Definitions

- n/a

5. Materials/Equipment



- n/a

6. Recipes (optional)

- n/a

7. Procedures

- Identify a scheduled scientific research presentation being given by an academic or industry research member.
 - o Criteria for acceptable research presentations:
 - It is a standalone event and not part of a larger closed seminar or conference
 - It is being presented by a research faculty member, a post-doctoral fellow, or a graduate trainee.
 - It covers information related to some type of biological phenomenon.
 - It is an organized oral presentation and not a poster presentation
 - o Suggested guidelines:
 - Choose a seminar that provides a discussion relevant to your scientific interests
 - Choose a seminar that uses skills/techniques that you have learned in the SkillsCenter
- Request approval from your course instructor to complete your seminar report on the presentation you have identified.
 - o In your proposal, briefly describe how the seminar satisfies the above criteria.
 - o Feel free to describe any alterations to the criteria, as they still might be approved by your course instructor.
- Attend the research seminar, taking careful notes on the work being presented.

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- Complete the MMT post-seminar report.
- Submit your report to the course proctors for review in the same fashion as all other completed MMTs.

8. Troubleshooting

- n/a

9. References

- Guidelines for active listening at a research seminar:
<https://www.ccl.org/articles/leading-effectively-articles/coaching-others-use-active-listening-skills/>
- Tips for students attending research seminars:
<https://robjhyndman.com/hyndsight/attending-research-seminars/index.html>

10. Module Methods Task (MMT)

Choose a seminar to attend. The following links provide information and dates of various seminars that are suitable for this module.

MCDB: <https://docs.google.com/spreadsheets/d/1vRUiLSbE-eAjOrXCB-5z86XCJ1blgOoq0IDXwvfNTXo>



IPHY: <https://www.colorado.edu/iphy/events/colloquium-integrative-physiology>

PSYC/NEURO: <https://www.colorado.edu/psych-neuro/news-events/events>

BIOCHEM: <https://www.colorado.edu/biochemistry/events-news-and-highlights/seminars>

CHEMBIO ENG: <https://www.colorado.edu/chbe/news/chemical-and-biological-engineering-seminar-series>

EBIO: <https://www.colorado.edu/ebio/events/seminar-series>

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Complete a short post-seminar report. If needed, consider asking the presenter for further information after the talk.

- Describe:
 - o The date/time/location of the presentation
 - o Who was giving the research talk, name, affiliation, etc
 - o Their scientific discipline (structural biology, cellular biology, developmental biology, etc.)
- Answer the following questions:
 - o What was the research question being asked by the presenter/associated researchers?
 - o Why is it important to investigate this question? i.e. What are the broad implications of this investigation? (This information is usually covered at the beginning and/or end of the presentation)
 - o Describe 2 specific research methods/techniques used in the study being presented.
 - What is the research technique/method?
 - Why was it used?
 - What was learned from using this technique?
- Summarize the findings of the research talk
 - o What did they learn?
 - o How is this new information valuable to the broader biological implications?
 - o What questions arise given what they know now?
- Describe one lesson you learned that, once applied, will allow you to be a better researcher or scientific communicator
- Submit your report to the MMT dropbox for review.